Draft

Terms of Reference

Phase 2
Water Management Policy and Strategy for the Protection of the Aquatic Environment

Water Management Plan
for the
South Saskatchewan River Basin

Alberta Environment
31 May 2002

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PRELIMINARY DRAFT Terms of Reference
Phase 2 of the Water Management Plan for the South Saskatchewan River Basin

1. Introduction

These are the draft terms of reference for Phase 2 of the multi-phase Water Management Plan for the South Saskatchewan River Basin (SSRB). The SSRB comprises the sub-basins of the Red Deer, Bow, Oldman and South Saskatchewan Rivers. The planning area does not include areas within the SSRB but outside Alberta. (The Bow River sub-basin is the only one of the four sub-basins that lies entirely within Alberta.)

The main goals of Phase 2 are to update the water management policies for the SSRB and to develop a strategy for the protection of the aquatic environment, including determination of the flows that should remain in the rivers.

To assist the reader a document containing definitions of terms used in water management planning in the SSRB is available.

Licences to withdraw water under the *Water Act* will be respected during the planning process. This is discussed in greater detail in Section 3.

This phase of the SSRB Water Management Plan deals only with surface water. Surface water includes any water drawn from wells that are directly influenced by surface water.

When Phase 2 is complete it will be joined to the Phase 1 Approved Water Management Plan by amendment.

The work on Phase 2 will be carried out in two stages. The first stage will be devoted to enhancing the understanding of the challenges being faced in water management in the SSRB, and collecting information to assist in the planning process. The second stage will be to evaluate the information collected, consult with the BACs and general public, and generate options and recommendations for updating the water management policy and developing a strategy for protecting the aquatic environment. These stages are described in greater detail later in these terms of reference.

The water management planning process is a cooperative and integrated initiative of Alberta Environment, Alberta Sustainable Resource Development (Fish and Wildlife Division), and Alberta Agriculture, Food and Rural Development (Irrigation Branch). Other government departments and agencies will also be consulted, including: Municipal Affairs (both generally, and specifically the Special Areas Board), Economic Development (includes tourism), Energy, Energy and Utilities Board, Transportation, Community Development and Innovation and Science.

2. Objectives of Phase 2

Phase 2 of the SSRB Water Management Plan has the following objectives:

1) To review and update the existing water management policy for the SSRB,

2) To develop a strategy for the protection of the aquatic environment in the SSRB. The strategy is anticipated to have three components:

   i) Development of water conservation objectives (river flow objectives) on a river reach basis for the low flow ranges required by the aquatic environment.
   ii) Recognizing the interconnectedness of environmental issues, develop a strategy, which may include water conservation objectives and other options such as operational releases, to optimize the benefits of infrequent high flow events for the aquatic environment.
   iii) Identify and priorize the area and reaches of rivers or streams in the SSRB that would benefit from a riparian health assessment, and restoration of riparian conditions.

3) To determine the volume of water in the SSRB available for new water allocations, and

4) To determine the matters or factors that must be considered in deciding whether to issue an approval, preliminary certificate (see definition) or licence; and

5) To make required amendments to the Phase 1 part of the Approved Water Management Plan.

In Phase 2, structural solutions to water supply management will not be addressed. This may be the subject of a future phase of the water management plan, once the overall water availability situation is clarified by Phase 2.

During water management planning, existing licences to withdraw water that are in good standing (see definition) will be respected. This means:

a) water conservation objectives cannot be retroactively imposed on existing licences, unless provision to do so is a condition of a licence or the licensee agrees with the change.
b) Licences will not be summarily cancelled for the sole purpose of accomplishing plan outcomes. (In accordance with normal procedures as described in the *Water Act*, licences may be subject to cancellation under some conditions.)

3. Planning Area

The planning area is the rivers and streams in the South Saskatchewan River basin in Alberta, which includes all or parts of the sub-basins of the Red Deer, Bow, Oldman, and South Saskatchewan Rivers (Figure 1). The basins of Pakowki and Many Island Lakes are not considered to be part of the South Saskatchewan River sub-basin. The water management plan applies to all projects that divert water within the SSRB.

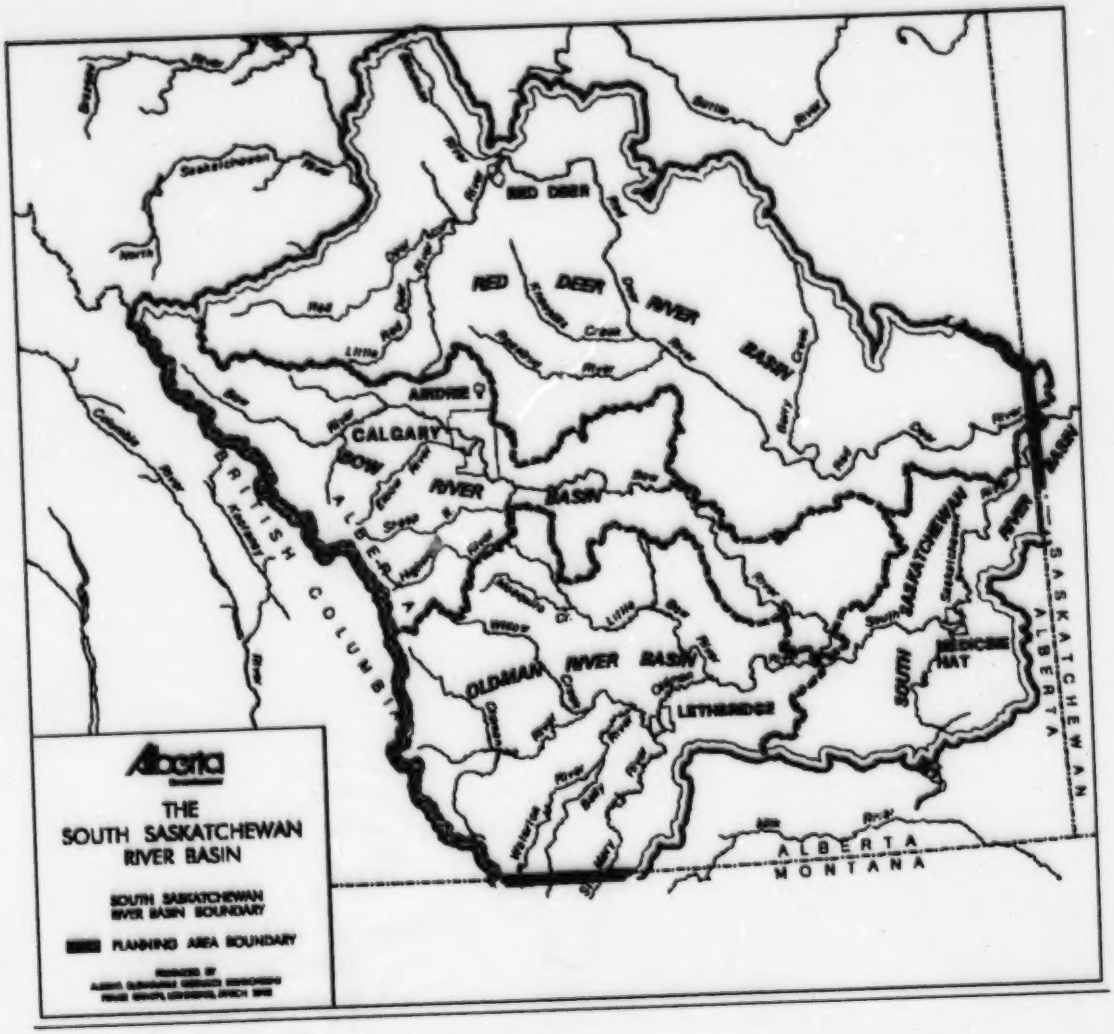


Fig. 1 The South Saskatchewan River Basin

- The parts of the basin that lie in Montana and Saskatchewan are not in the planning area.
- The water management plan applies to all projects that use water diverted within the SSRB.

4. Overview of Current Conditions

The following items are important elements that form the existing technical, legal and policy context for this planning process. Each item will have to be carefully considered thoughout Phase 2.

a) The *Water Act*
b) The *Framework for Water Management Planning*
c) The Master Agreement on Apportionment (see definition)
   - this agreement will be respected
d) There are thousands of existing licences for withdrawal of water for a variety of purposes
e) Operating licences for dams and headworks (may contain specific instream objectives (see definition))
f) Instream objectives (see definition) are in use in several river reaches. These are described in the *Water Management Modeling Information Package* (Alberta Environment, 2001a)
g) The limit of the water resource is being approached in the SSRB as shown by computer modeling (Alberta Environment, 2001a).
   - some licences to withdraw water are not utilized fully, so at this time actual river flows can be greater than that predicted by computer modeling
   - licences for new allocations have a risk of water not being available in drier years
h) The existing Water Management Policy for the SSRB
   - adopted in 1990
   - a set of six general policies for water management in the SSRB
i) The existing South Saskatchewan Basin Water Allocation Regulation
   - limits the amount of water (in terms of area that can be irrigated) for a number of irrigation projects if an application is made
   - does not allocate water or establish a priority date for the projects
j) Phase 1 of the Water Management Plan for the SSRB
   - authorizes water allocation transfers and water conservation holdbacks
   - water allocation transfers will add flexibility in the allocation of water by enabling new or existing water users to obtain reliable water allocations, even in basins in which applications for new allocations are not being accepted.
   - recommends to the Director that, as an interim measure until the completion of Phase 2, applications for new water allocations from the southern tributaries of the Oldman River (the St. Mary, Belly and Waterton Rivers) not be accepted. This is due to the concern that there may be insufficient water in these rivers to permit new water allocations.
k) Recent drought conditions have raised public awareness of the water supply and demand situation.

5. Relationship with *Water for Life: Alberta's Strategy for Sustainability*

The Alberta Government is presently working on a province-wide water strategy. This will be:
... a comprehensive strategy that will identify short-, medium-, and long-term plans to effectively manage the quantity and quality of the province's water systems and supply.

Water for Life *will address Alberta's current water challenges and enable the province to proactively deal with water-related issues we may face in the future.*

Public input on the strategy was sought through a workbook and community workshops across the province in March and April 2002. A Ministerial Forum on Water was held in June 2002. The goal is to have an action-oriented water strategy- one that identifies specific activities and initiatives – in place by late fall 2002.

The SSRB Water Management Plan is a regional initiative dealing with specific issues in the SSRB. As such, it will proceed in parallel with the work on the *Water for Life* strategy. Once recommendations of the Strategy are in place there may be implications to the water management plan that may be require parts of the plan to be re-visited and amended. However, the importance of the water management issues in the SSRB is justification to continue without delay on the water management plan.

6. Relationship with Regional Strategies and Other Planning Activities

Phase I of a Regional Sustainable Development Strategy for Southern Alberta will be initiated in 2002/03. The planning area includes all of Southern Alberta, entirely encompassing the SSRB (in Alberta).

The strategy will look at social, economic, land use and environmental information to take stock of our current situation and to assess what population growth and economic growth in multiple sectors of the economy are likely to mean for social, economic and environmental health over the next two generations. Its purpose will be to identify the issues that need to be addressed to ensure a sustainable future—how can we meet our social and economic needs while ensuring reasonable environmental integrity?

The relationship between the SSRB water management plan and the Regional Sustainable Development Strategy is the same as with the Water Strategy; both the latter exercises are strategic plans, dealing with a suite of issues in a very large system, the SSRB water management plan is tactical—dealing with specific issues in a basin. If it were not already underway, the SSRB water management planning is precisely the kind of 'issue to be addressed' that would be an outcome of Phase I of the Regional Sustainable Development Strategy. Because of the interconnectedness of environmental resource management challenges, it is possible that addressing issues arising from the Southern Regional Sustainable Development Strategy also may require parts of the SSRB water management plan to be revisited and amended.

7. The First Stage - Groundwork

There is a need to continue to raise awareness of water issues and water management in the SSRB. By enhancing the level of awareness and understanding, more informed input can be provided by

the public. Also, to assist in developing policies for water management in the SSRB, there are numerous basic facts and concepts that must be gathered, organized and presented.

The communications methods will include:
- presentations to, and materials for, the BACs and other interested groups
- open houses for the general public
- brochures, pamphlets, or booklets
- website (with "contact us" feature)

The major product to support the planning work will be a background information package on the status of water management in the SSRB. This package will include the following topics:

- the status of water allocation in the SSRB
- the status of the aquatic environment in the SSRB (including an evaluation of whether impacts on the aquatic environment are the result of the hydrological regime or land-use practices)
- historical patterns and trends in sub-basin contributions to apportionment flows

This will be a non-technical, concise and straightforward package in plain English intended for broad distribution to interested parties. It will provide a complete and frank review of the status of the SSRB.

A report will be prepared presenting the results of computer modeling of water management scenarios created in consultation with the BACs. Some of the scenarios will be "educational" in nature. That is, they could serve to help people understand certain aspects of water management in the SSRB, even thought the scenarios may not be practical.

8. The Second Stage - Planning

During this stage a new and updated set of policies for water management in the SSRB will be developed. This will be based on an analysis of the information developed during the groundwork stage and review of the existing policies. Once the broad direction has been set for future water management in the SSRB, the work will proceed into the more detailed, specific and technical task of identifying water conservation objectives for recommendation to the Director.

With the advice of the BACs and the general public, the existing water management policy will be reviewed and updated. This may include revising or eliminating some of the existing policies, or, if necessary, creating new ones.

The Strategy for Protection of the Aquatic Environment

One of the key policy topics will be a strategy for the protection of the aquatic environment of the SSRB. It is anticipated to have three components:

(1) Development of water conservation objectives (river flow objectives) on a river reach basis for the low flow ranges required by the aquatic environment.

(2) Recognizing the interconnectedness of environmental issues, develop a strategy, which may include water conservation objectives and other options such as operational releases, to optimize the benefits of infrequent high flow events for the aquatic environment.

(3) Identify and priorize the area and reaches of rivers or streams in the SSRB that would benefit from a riparian health assessment, and restoration of riparian conditions.

Other key areas for policy development include:

(1) What is a fully allocated basin? That is, at what point should there be no new water allocations?
(2) What flows should each of the sub-basins contribute to the Master Agreement on Apportionment and what are the consequences for the sub-basins?
(3) How can "provincial" versus "basin" or "sub-basin" interests be balanced?
(4) What are the matters or factors that the Director must consider in deciding to issue an approval, preliminary certificate or licence?

During the process, additional issues may be identified.

Once a determination is made concerning the flows that are to remain in the rivers it will be possible to deduce the volume of water that may be available for future allocation.

The subject of the number of households on a parcel of land will not be addressed during Phase 2, as it would be impossibly complex to address at this large scale. It could be incorporated in other smaller scale water management plans.

During the later stages of the process two other tasks will be carried out:
(1) Development of recommended amendments to the Phase 1 component of the Approved Water Management Plan.
(2) Determine the next phase of the water management plan.

9. Public Consultation Process

a) Objectives of Public Consultation

The specific objective for public consultation in this process is to obtain advice from the specific sectors of society with an interest in the management of the water of the SSRB. Advice will also be sought from unaffiliated members of the public.

b) Description of Previous Consultation Outcomes

Public consultation was conducted during the preparation of the Phase 1 Plan and the results are summarized in the appendices to that plan. Listed below are outcomes of the consultations that are relevant for Phase 2:

i) Provide more time and opportunity for public input into the planning process;
ii) There is strong interest in looking at water availability and water conservation objectives.
iii) There was significant public interest interest in looking at longer term water issues in the SSRB
iv) More information should be provided to educate/support newcomers to water planning who do not know the recent history of the new *Water Act.*

c) Basin Advisory Committees

i) The BACs will be requested to continue in the advisory role they played in Phase 1.
ii) They will continue to consist of people who represent a certain sector of society with an interest in water management. Typical sectors are: irrigation agriculture, non-irrigation agriculture, ecosystem protection/environmental, First Nations, industry, municipal and recreation. The BACs are intended to facilitate understanding and cooperation between the sectors.
iii) There will be regular meetings with the BACs throughout all of Phase 2. Key points in the process at which the BACs will provide advice are:
   - terms of reference
   - policy development
   - selection of scenarios for evaluation
   - review of results of scenario runs
   - identification of preferred scenario
   - water conservation objectives
iv) Joint meetings of the four BACs will be held at key points during the process. At the joint meetings Steering Committee members will be present.
v) The BACs will operate in accordance with a common set of general operating principles, but may adopt their own terms of reference which spell out rules on the conduct of meetings.
vi) The BACs will have access to government and other specialists as required.
vii) BAC members will maintain regular two-way communication with the sectors they represent.

d) Consultations with the General Public

i) Consultations with the general public in the form of open houses or workshops will be held at key points during Phase 2. These will be determined as the project progresses, in consultation with the BACs.
ii) The consultations will be advertised well in advance of the sessions. The ads will be in a prominent position in each of the daily and weekly newspapers in the SSRB. Other options for reaching the public will also be explored.
iii) Following the sessions, the public will have at least thirty days to review materials and submit comments. Thirty-day review periods will take precedence over stated schedule dates.

e) Communications Strategy

i) A communications strategy will be prepared. This will lay out details of potential delivery methods for the public and government staff.
ii) A website for the water management plan has been set up in connection with the Alberta Environment website. This will include the important documents for the project, as well as educational materials. The website address is: http://www3.gov.ab.ca/env/water/regions/ssrb/

10. Roles, Responsibilities and Accountability of Participants

The roles, responsibilities and accountability of participants will remain essentially the same as in Phase 1.

a) Steering Committee - Consists of senior government managers from the three key departments: Alberta Environment, Alberta Sustainable Resource Development, and Alberta Agriculture, Food and Rural Development. The committee will provide direction to the Working Group on all matters pertaining to the planning process. The Steering Committee reports to the senior executive of the three participating departments.

Invitations will be extended to other departments to provide advice to the Steering Committee: These departments are: Municipal Affairs (from both a general perspective, and specifically the Special Areas Board), Energy, Energy and Utilities Board, Economic Development (including Tourism), Transportation, and Innovation and Science.

The Steering Committee will directly receive the advice of the BACs via the basin teams and project coordinator.

b) Working Group - Consists of staff from Alberta Environment; Alberta Agriculture, Food and Rural Development; and Alberta Sustainable Resource Development. It also provides recommendations to the Steering Committee. The Working Group reports through the project coordinator to the Steering Committee. This committee is responsible for conducting public consultation, and for developing a draft water management plan and related products, computer simulations, and recommending and arranging for necessary research to support the planning process. The Working Group includes three "basin teams" that will work with the BAC in each sub-basin. The "basin teams" consist of a Water Resource Planner working with another planner or a Community Relations Officer. The Working Group also includes the chair of the Technical Instream Needs Group, the scientists who have researched instream needs in the SSRB.

c) Project Coordinator – The project coordinator has the following responsibilities:
- to ensure the work in all four sub-basins is proceeding in a consistent, unified and coordinated fashion
- to ensure adherence to these terms of reference

- to track the funds for the project to meet a budget approved by the Steering Committee
- to keep the project on schedule, but to ensure 30-day review periods are respected, if necessary.
- liaison between the Steering Committee and the Working Group
- principal authorship of the draft plan

d) Technical Experts – Government staff who are experts in different aspects of water and resource management will be available for consultations with the Steering and Working Committees and the BACs. Outside experts may also be brought in, when necessary.

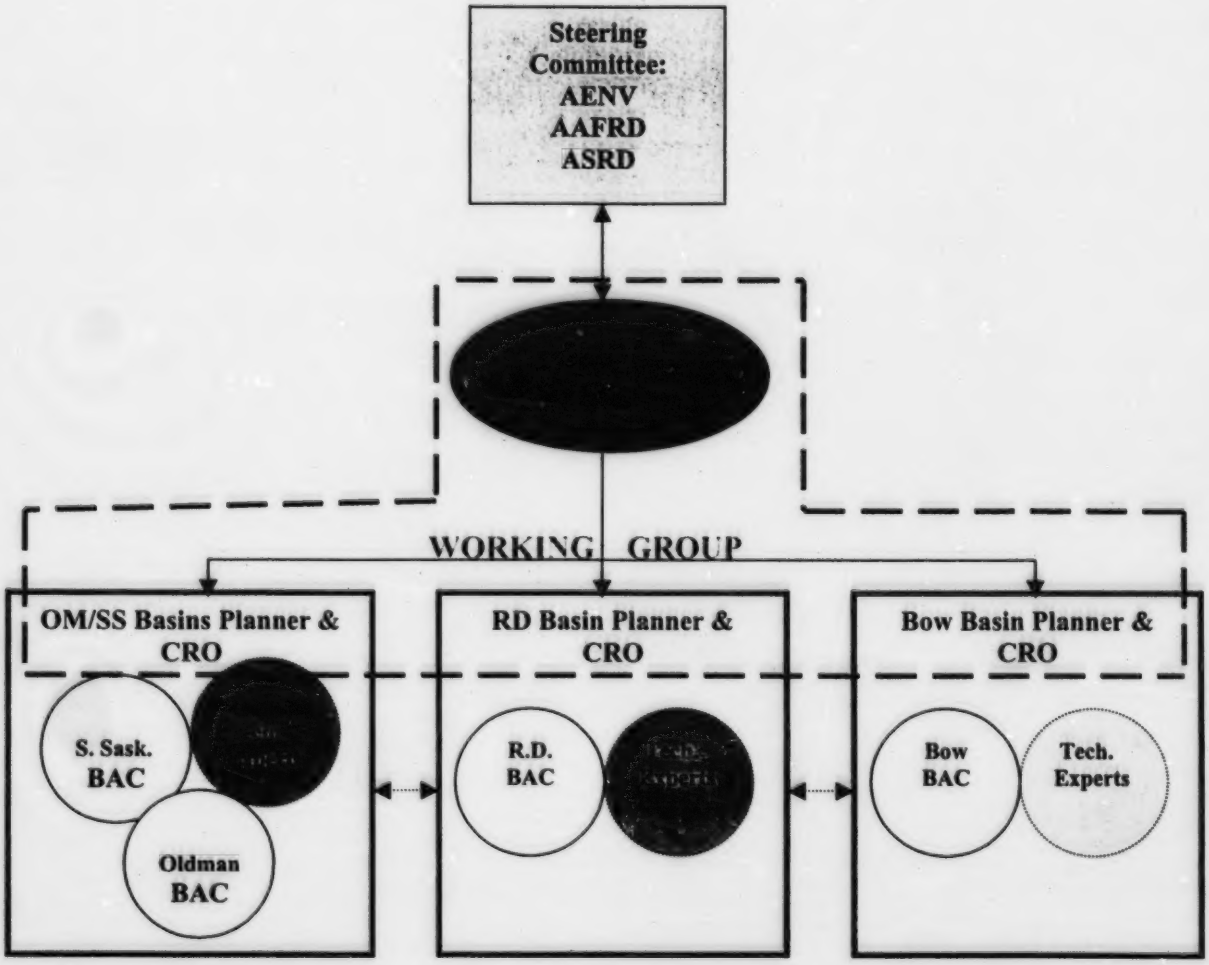
e) Basin Advisory Committees – The BACs will be responsible for and accountable to the sectors they represent. They are to be in active two-way communication with the organizations they represent. The BACs will provide advice to the Working Group and the Steering Committee through their respective basin teams and the project coordinator.

The relationships between the committees are shown in Figure 2.

11. Work Plan and Schedule	Completion
a) Development of Terms of Reference	
i) develop terms of reference in consultation with the BACs	March - June 2002
b) First Stage – Groundwork	
- Develop general educational material	throughout project
- Develop SSRB background information package	June – Sept. 2002
- creation of scenarios to be evaluated (first iteration)	April – June 2002
- WRMM scenario runs and results report	June – Sept. 2002
c) Second Stage - Planning	
- Review SSRB Background Information Package	Sept. – Oct. 2002
- Review of report on the initial scenarios	Sept. - Oct. 2002
- Develop policies for water management in the SSRB, including a strategy for protection of the aquatic environment in the SSRB	Oct. – Nov. 2002
- Public review of proposed policies	Jan. 2003

Fig. 2 RELATIONSHIPS

SSRB WATER MANAGEMENT PLANNING COMMITTEES



- Run iterations of scenarios	Nov. – Dec. 2002
- Identify preferred scenario	Jan. 2003
- Develop recommendations to the Director for the establishment of water conservation objectives	Feb. 2003
- Public review of recommendations	March 2003
- Determine the amount of water available for new water allocations in the SSRB (technical exercise)	March 2003
- Develop recommended revisions to Phase 1	April - May 2003
- Develop recommendation for the next phase of the water management plan	June 2003
- Writing of draft Phase 2 water management plan	Jan. – June 2003
- Write final draft of Phase 2 water management plan, and revisions to Phase 1 water management plan	July – Aug. 2003
- Public review of final draft	Sept. 2003
- Submit final draft of overall Water Management Plan (Phases 1 and 2) for approval	October 2003

12. References

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Alberta Environment. 2001b. South Saskatchewan River Basin Non-irrigation Water Use Forecasts. Hydroconsult and Canadian Resource Economics Ltd. Calgary, Alberta. ___pp.

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Appendix A

Relationship of the SSRB Water Management Plan to other Planning Activities

Listed below are existing plans and current planning initiatives in the SSRB that are either directly or indirectly related to water management in the SSRB.

There are numerous other conservation and landscape management initiatives that are not listed that have the general effect of protecting the watershed.

Provincial Level

- Water for Life: Alberta's Strategy for Sustainability (underway)
  - Alberta Environment
  - see main body of terms of reference for more complete discussion
  - This is a broad initiative with the purpose of developing a provincial strategy for water management.
  - Outcomes of this initiative may have implications for water management planning in the SSRB.

South Saskatchewan River Basin (Overall)

- Regional Strategy for Southern Alberta
  - See main body of terms of reference for more complete discussion
- Integrated Resource Plans and Regionally Integrated Decisions
  - Alberta Sustainable Resource Development
  - Several are either in place or underway
  - Generally have as one objective the protection of watersheds (e.g. *A Policy for Resource Management of the Eastern Slopes)*
- Municipal development plans
  - Various urban and rural municipalities
  - Many are either in place or underway
  - Generally have the purpose of guiding development to reduce negative impacts on the environment, including the water resource
- Management Plans for parks and protected areas (national and provincial)
  - Parks Canada, Alberta Community Development
  - Many are either in place or to be initiated
  - Particularly in the Rocky Mountain headwaters, but throughout the basin too.
  - Have the inherent effect of watershed protection.
  - Several new parks and protected areas were recently created through the Special Places initiative.
- Local watershed initiatives in smaller basins to improve water quality (underway),

e.g. Little Red Deer River Watershed Initiative, Crowfoot Creek, Elbow River Watershed Partnership, Mosquito Creek/Little Bow Watershed Group, Nose Creek Watershed Partnership, Oldman River BasinWater Quality Initiative, Frank Lake Water Quality Mitigation Initiative

Bow River Basin

- Bow Basin Plan
  - Alberta Environment
  - Preparation of a plan for the Bow Basin is underway. The plan will provide a water management strategy for the future of the Bow River Basin. It will provide better information, improved analytical tools, and timely recommendations for decisions related to the water in the Bow River Basin. Phase 2 of the Water Management Plan for the SSRB will provide instream objectives for the Bow River downstream of Bearspaw Dam. Among the other initiatives contributing to the Bow Basin Plan are the Highwood Management Plan, the implementation of instream objectives for the upper Elbow River, and the work of the Fisheries and Recreation Enhancement Working Group.

- In the Bow River Basin the Bow River Basin Council plays an important role in addressing water management issues. The Council reports to the Minister of Environment. The BAC in the Bow River Basin is a sub-committee of the existing Bow River Basin Council. The mandate of the Council is to: *Conduct activities for the purposes of protecting and improving the waters of the Bow River Basin and with respect to any social, cultural, economic and environmental aspects of:*
  - *the quality and quantity of groundwater and surface water*
  - *riparian zones*
  - *aquatic ecosystems*
  - *the effects of human activity and land use on surface water and groundwater quality and quantity*

- Highwood Water Management Plan (underway)
  - Alberta Environment, Alberta Transportation
  - connected to the Highwood/Little Bow River diversion project
  - mandated by the Joint Review Panel of the Natural Resources Conservation Board and the Canadian Environmental Assessment Agency.
  - Goal is to achieve sustainable water management in the basins of the Highwood and Little Bow Rivers.
  - The outcomes of this process will be directly related to SSRB water management.
  - This process has served as a prototype for a number of scientific studies that are being applied to the overall SSRB.

Red Deer River Basin

- Red Deer River Corridor Integrated Management Plan (in place)
  - Alberta Environment, Alberta Sustainable Resource Development, Alberta Community Development, municipalities

- contains references to water management, river recreation, fisheries
- must be consulted during Phase 2 of the Water Management Plan

- Glennifer Lake Reservoir Shorelands Areas Structure Plan (in place)
  - Alberta Environment, Alberta Community Development, municipalities
  - contains policies for reservoir levels for recreation and affects water management for the Red Deer River downstream
- Feasibility of the Special Areas Water Supply Project is currently being studied. It proposes a diversion of Red Deer River water in the vicinity of Nevis for use in the Special Areas.
  - Alberta Municipal Affairs (Special Areas)

Oldman River Basin

- Oldman River Basin Water Quality Initiative (underway)
  - multiple partners
  - focuses on four key areas:
    - Public education and awareness regarding water quality in the basin;
    - Assessment of the current land use in the Oldman River Basin;
    - Testing and implementation of beneficial management practices (BMP) to limit negative impacts on water quality;
    - Monitoring of surface water quality in the basin to identify areas of concern and impacts of various activities.
- C5 Forest Management Plan
  - Alberta Sustainable Resource Development
  - may have incidental benefit of reducing impacts on the watershed from forest harvesting
- Castle River Access Management Plan
  - Alberta Sustainable Resource Development
  - may have incidental benefit of reducing impacts on the watershed from erosion caused by off-road vehicle use

South Saskatchewan River Sub-basin

- No initiatives